

Remarks/Arguments:

This Amendment adds no new claims, and is provided to amend paragraph 47 of the specification and claims 1, 7, 9, 13 and 15. No new matter has been added. Upon entry of this Amendment, claims 1-17 will be pending.

Finality of First Office Action

The Applicant does not believe that the current office action, the first action on the merits after submission of the Request for Continued Examination, should be final, and requests the withdrawal of the finality of the current office action of May 17, 2007. Specifically, as noted in the Advisory Action of March 3, 2007, the amendments of January 29, 2007, were not entered as they raise new issues that would require further consideration and/or search (see Advisory Action part 3). Accordingly, as specified by MPEP 706.07(b), reproduced below:

“However, it would not be proper to make final a first Office action in a continuing or substitute application where that application contains material which was presented in the earlier application after final rejection or closing of prosecution but was denied entry because (A) new issues were raised that required further consideration and/or search, or (B) the issue of new matter was raised.”

The Applicant points to the Advisory Action and MPEP 706.07(b) as supporting withdrawal of the finality of the current office action of May 17, 2007. That is, the Advisory Action clearly states that the amendments of January 29, 2007, would not be entered as they raise new issues that would require further consideration and/or search. In doing so and based upon MPEP 706.07(b), it would not be proper to make the first office action of May 17, 2007 final.

Accordingly, the Applicant requests the withdrawal of the finality of the current office action of May 17, 2007.

Specification

The Applicant has amended paragraph 47 of the specification to correct a typographical error.

Rejections of the Claims under 35 U.S.C. 103

The Examiner has rejected claims 1-3 and 6-15 under 35 U.S.C. 103(a), as being unpatentable over U.S. Patent No. 6,320,647, issued to Makino (hereinafter Makino1), in view of U.S. Patent No. 6,961,077, issued to Makino (hereinafter Makino2), and further in view of U.S. Patent No. 6,549,228, issued to Watanabe (hereinafter Watanabe). The Examiner incorrectly cited Makino2 as U.S. Patent No. 6,947,007, which is believed to be a typographical error, and the correct reference for Makino2 is believed to be U.S. Patent No. 6,961,077.

Specifically, the Examiner points to Makino1 as disclosing a multibeam light source unit comprising a diode unit, a rotating member, and a fixing member comprising a first and second member, wherein the first member is operable to receive the rotating member and the second member extends perpendicular from the first member.

The Examiner points to Makino2 as disclosing a fixing bracket to secure the fixing member to a frame and having a plurality of planar surfaces extending perpendicular to a rear surface, and points to Watanabe as disclosing a fixing member bisected by a semicircular groove operable to support and position a lens holder, purportedly rendering obvious the invention as claimed by the Applicant in claim 1.

The Examiner notes that where Makino1 may fail to disclose a plurality of planar surfaces, the fixing bracket 49 of Makino2 constitutes a plurality of planar surfaces that extend substantially perpendicular to a planar surface of the first member. The Examiner also points to Makino1 as describing a hole, and points to Watanabe as disclosing a fixing member 27 of Fig. 9 being bisected by a semicircular groove.

The Examiner further states that it would be obvious to include the semicircular groove of Watanabe within the second member of Makino2 to make it easier to change the multi-beam light source unit, thereby resulting in the groove of Watanabe, as it extends the

entire thickness of the second member, to extend continuously from the planar surface of the first member.

However, the Applicant has amended claim 1 to further recite that the fixing member is configured to support the lens holder and collimating lens in a stationary position as the rotating member and diode unit are turned. This is not new matter, and is noted elsewhere in the specification (see for example, paragraphs 47-48, and Figs. 3A and 3B).

Specifically, the multibeam light source unit as disclosed by the Applicant is configured to rotate and then fix the diode unit using the rotating member, while the collimating lens and lens holder remain stationary relative to the moving rotating member, since the collimating lens and lens holder are placed within the groove of the second member of the fixing member. The fixing member remains stationary as the rotating member is rotated, then fixed into position. The Applicant has amended claim 1 to recite the relative movement provided between the diode unit and the collimating lens provided by the rotatably supported rotating member having the diode unit, and the fixed fixing member having the collimating lens. As described in greater detail below, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest a multibeam light source unit configured to provide such relative movement.

Makino1 discloses the collimator lens 35 within a fitting pipe 6 fitted into the fitting hole 3b of the rotary base 3 (see col. 4, lines 63-67 and Fig. 2). Further, the laser array 30 is disclosed as being secured to the support body 2 which in turn, is secured to the rotary base 3 (see col. 4, lines 53-58). Accordingly, the Makino1 reference discloses a system wherein the collimator lens is rotatable with the laser array since both are secured to the rotary base.

Makino2 discloses the collimator lens 5 fixed on a partial flange 2b of a holder 2 using adhesive, with the laser array 1 fixed to the opposite side of the holder 2 (see Fig. 3A and col. 5, lines 61-67, col. 6, lines 1-7, and in regard to Fig. 8A, col. 10, lines 42-45), such that, as with Makino1, the collimating lens is moved with the laser array (see col. 10, lines 50-58). Accordingly, neither Makino1 or Makino2, alone or in combination, disclose a system having a rotating member and a fixing member, wherein the rotating member is configured to rotate and then fix the diode unit while the collimating lens and lens holder in

the fixing member remain stationary relative to the moving rotating member as claimed by the Applicant in claim 1 as amended.

The Watanabe reference discloses the collimating lens 3 at the tip of a cylindrical member 26, which is connected to the laser diode 1 (see Fig. 9, and col. 6. lines 60-67). The moveable member 12 is secured to the laser diode 1 opposite to the collimating lens 3 such that movement provided by the moveable member 12 moves the attached diode and lens together. Accordingly, as with Makino1 and Makino2, the collimating lens is moved with the laser diode.

Accordingly, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 1 as amended. Specifically, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest a system having a rotating member and a fixing member, wherein the rotating member is configured to rotate and then fix the diode unit while the collimating lens and lens holder in the fixing member remain stationary relative to the moving rotating member as claimed by the Applicant in claim 1 as amended. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of independent claim 1, and dependent claims 2-3 and 6-8, which depend from claim 1, for the same reasons.

The Applicant has also amended claims 9 and 15 in a similar manner, and respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of independent claim 9 and dependent claims 10-14, which depend from claim 9, and independent claim 15, for the same reasons. Claims 7 and 13 have been amended to correct antecedent basis in view of the amendments to claims 1 and 9.

Regarding claims 2 and 3, the Examiner points to Makino1 as disclosing a rotating member having a press fit hole and a fixing member with first and second members, purportedly rendering obvious the invention as claimed by the Applicant in claim 2. The Examiner further points to Makino1 as disclosing a rotating member having a pair of arc-shaped holes into which a pair of screws is inserted to fix the rotating member to the first

member of the fixing member, purportedly rendering obvious the invention as claimed by the Applicant in claim 3.

However, for the reasons noted above, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 1 as amended, from which claims 2 and 3 depend. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claims 2 and 3 for the same reasons.

Regarding claims 6 and 7, the Examiner points to Makino1 as disclosing a driving circuit board, purportedly rendering obvious the invention as claimed by the Applicant in claim 6. Further, the Examiner points to Makino1 as disclosing a collimating lens and lens holder, the lens holder being placed in the second member of the fixing unit, purportedly rendering obvious the invention as claimed by the Applicant in claim 7.

However, for the reasons noted above, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 1 as amended, from which claims 6 and 7 depend. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claims 6 and 7 for the same reasons.

The Examiner has rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Makino1 in view of Makino2, and in view of Watanabe. Specifically, regarding claim 8, the Examiner points to Makino1 as disclosing the claimed invention with the exception of the semicircular groove of the second member having holes at both sides. The Examiner points to Makino2 as disclosing a bracket with holes at both sides, and points to Watanabe as disclosing a semicircular shaped frame 27 supporting a collimating lens 3, purportedly rendering obvious the invention as claimed by the Applicant in claim 8.

However, for the reasons noted above, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 1 as amended, from which claim 8 depends. Accordingly, the Applicant respectfully

requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claim 8 for the same reasons.

The Examiner has rejected independent claim 9 under 35 U.S.C. 103(a) as being unpatentable over Makino1 in view of Makino2, and further in view of Watanabe. However, as noted above, the Applicant has amended claim 9 to further recite that the fixing member is configured to support the lens holder and collimating lens in a stationary position as the rotating member and diode unit are turned. This is not new matter, and is noted elsewhere in the specification (see for example, paragraphs 47-48, and Figs. 3A and 3B).

That is, the multibeam light source unit as disclosed by the Applicant is configured to rotate and then fix the diode unit using the rotating member, while the collimating lens and lens holder remain stationary relative to the moving rotating member, since the collimating lens and lens holder are placed within the groove of the second member of the fixing member. The fixing member remains stationary as the rotating member is rotated, then fixed into position. The Applicant has amended claim 9 to recite the relative movement provided between the diode unit and the collimating lens provided by the rotatably supported rotating member having the diode unit, and the fixed fixing member having the collimating lens.

Makino1 discloses the collimator lens 35 within a fitting pipe 6 fitted into the fitting hole 3b of the rotary base 3 (see col. 4, lines 63-67 and Fig. 2). Further, the laser array 30 is disclosed as being secured to the support body 2 which in turn, is secured to the rotary base 3 (see col. 4, lines 53-58). Accordingly, the Makino1 reference discloses a system wherein the collimator lens is rotatable with the laser array since both are secured to the rotary base.

Makino2 discloses the collimator lens 5 fixed on a partial flange 2b of a holder 2 using adhesive, with the laser array 1 fixed to the opposite side of the holder 2 (see Fig. 3A and col. 5, lines 61-67, col. 6, lines 1-7, and in regard to Fig. 8A, col. 10, lines 42-45), such that, as with Makino1, the collimating lens is moved with the laser array (see col. 10, lines 50-58). Accordingly, neither Makino1 or Makino2, alone or in combination, disclose a system having a rotating member and a fixing member, wherein the rotating member is configured to rotate and then fix the diode unit while the collimating lens and lens holder in

the fixing member remain stationary relative to the moving rotating member as claimed by the Applicant in claim 9 as amended.

The Watanabe reference discloses the collimating lens 3 at the tip of a cylindrical member 26, which is connected to the laser diode 1 (see Fig. 9, and col. 6. lines 60-67). The moveable member 12 is secured to the laser diode 1 opposite to the collimating lens 3 such that movement provided by the moveable member 12 moves the attached diode and lens together. Accordingly, as with Makino1 and Makino2, the collimating lens is moved with the laser diode.

Accordingly, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 9 as amended. Specifically, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest a system having a rotating member and a fixing member, wherein the rotating member is configured to rotate and then fix the diode unit while the collimating lens and lens holder in the fixing member remain stationary relative to the moving rotating member as claimed by the Applicant in claim 9 as amended. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of independent claim 9, and dependent claims 12-14, which depend from claim 9, for the same reasons.

Regarding claims 10 and 11, the Examiner points to Makino2 as disclosing the fixing of the light source unit to the bottom of the frame via the second member, purportedly rendering obvious the invention as claimed by the Applicant in claim 10. The Examiner also points to Makino1 as disclosing the polygon mirror and image resulting lens, purportedly rendering obvious the invention as claimed by the Applicant in claim 11.

However, for the reasons noted above, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 9 as amended, from which claims 10 and 11 depend. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claims 10 and 11 for the same reasons.

Regarding claims 12 and 13, the Examiner points to Makino1 as disclosing the press fit hole of the rotating member and the rotating boss of the fixing member, and the collimating lens and lens holder, purportedly rendering obvious the invention as claimed by the Applicant in claims 12 and 13.

However, for the reasons noted above, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest each element of claim 9 as amended, from which claims 12 and 13 depend. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claims 12 and 13 for the same reasons.

Regarding claim 14, the Examiner points to Makino1 and Makino2 as disclosing the subject matter described above, and points to Watanabe as disclosing a semicircular groove for receiving a lens holder and having a plurality of holes for fixing the member to an object, purportedly rendering obvious the invention as claimed by the Applicant in claim 14.

However, for the reasons noted above, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest each element of claim 9 as amended, from which claim 14 depends. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claim 14 for the same reasons.

Regarding claim 15, the Examiner points to Makino1, Makino2 and Watanabe as disclosing the fabrication of a multibeam light source, purportedly anticipating the invention as claimed by the Applicant in claim 15.

However, the Applicant has amended claim 15 to further recite the step of assembling the multibeam light source unit in the sub-assembly process by turning the rotating member and laser diode while supporting the collimating lens in a stationary position as the rotating member and diode unit are turned. In contrast, Makino1 discloses the assembly of collimator lens 35, within a fitting pipe 6 fitted into the fitting hole 3b of the rotary base 3, with the laser array 30 (see col. 4, lines 58-62 and col. 5, lines 27-39). Once the relation between the lens

and laser array is set, the support body 2 is fixed to the rotary base 3, such that the collimator lens is moved with the laser array since both are secured to the rotary base.

Makino2 discloses the assembly of the collimator lens 5 on a partial flange 2b of a holder 2 and secured once in proper relation to the laser array 1 using adhesive (see col. 10, lines 32-41)), such that, as with Makino1, the collimating lens is thereafter secured and moves with the laser array (see col. 10, lines 50-58). Accordingly, neither Makino1 or Makino2, alone or in combination, disclose a method of assembling the multibeam light source unit in the sub-assembly process by turning the rotating member and laser diode while supporting the collimating lens in a stationary position as both the rotating member and diode unit are turned.

The Watanabe reference discloses assembling the collimating lens 3 at the tip of a cylindrical member 26, which is connected to the laser diode 1. The moveable member 12 is secured to the laser diode 1 opposite to the collimating lens 3. Accordingly, as with Makino1 and Makino2, movement provided by the member 12 simultaneously moves the collimating lens 3 with the laser diode 1 such that an assembly process cannot be provided wherein the rotating member and laser diode are turned while supporting the collimating lens in a stationary position as claimed by the Applicant in assembling the multibeam light source unit in the sub-assembly process.

Accordingly, the Makino1, Makino2 and Watanabe references do not disclose or reasonably suggest, alone or in combination, each element of claim 15 as amended. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of independent claim 15.

The Examiner has rejected claims 4-5 and 16-17 under 35 U.S.C. 103(a) as being unpatentable over Makino1 in view of Makino2, further in view of Watanabe, and still further in view of U.S. Patent No. 5,774,248, issued to Komatsu (hereinafter Komatsu). Specifically, regarding claim 4, the Examiner points to Makino1 and Makino2 as disclosing the claimed invention with the exception of the gear section. The Examiner points to Komatsu as disclosing the gear section at one side, purportedly rendering obvious the invention as

claimed by the Applicant in claim 4, and points to general notice given as disclosing a use of a plurality of rotary gears to provide better control of a rotating member.

However, for the reasons noted above, the Makino1, Makino2, Watanabe and Komatsu references, do not disclose or reasonably suggest, alone or in combination, each element of claim 1 as amended, from which claims 4 and 5 depend. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claims 4 and 5 for the same reasons.

Regarding claims 16-17, the Examiner points to Makino1, Makino2 and Watanabe as disclosing the claimed invention with the exception of the alignment jig. The Examiner points to Komatsu as disclosing the alignment jig, purportedly rendering obvious the invention as claimed by the Applicant in claims 16 and 17.

However, for the reasons noted above, the Makino1, Makino2, Watanabe and Komatsu references, do not disclose or reasonably suggest, alone or in combination, each element of claim 15 as amended, from which claims 16 and 17 depend. Accordingly, the Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. 103(a) of dependent claims 16 and 17 for the same reasons.

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Reply to final Office Action of May 17, 2007

Conclusion

In view of the above, it is believed that the application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any questions, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

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